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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,855	11/13/2001	Armin Amrhein	A34736 (071308.0257)	3772

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EXAMINER
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KISS, ERIC B

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/056,855

Applicant(s)

AMRHEIN ET AL.

Examiner

Eric B. Kiss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-19, 21, 22, 24 and 25 is/are rejected.
- 7) ☒ Claim(s) 10, 20, 23 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>20030210</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Claims 1-26 have been examined.

#### ***Information Disclosure Statement***

2. Each information disclosure statement must further include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information listed that is not in the English language. The concise explanation may be either separate from the specification or incorporated therein with the page(s) and lines of the specification where it is incorporated being noted in the IDS.

Where the information listed is not in the English language, but was cited in a search report or other action by a foreign patent office in a counterpart foreign application, the requirement for a concise explanation of relevance can be satisfied by submitting an English-language version of the search report or action which indicates the degree of relevance found by the foreign office. See MPEP §609.

Applicant's submission of a German-language copy of the German Patent Office procedure does not meet this requirement.

However, it is noted that Applicant has provided English-language abstracts for each of the foreign references.

Submission of an English language abstract of a reference may fulfill the requirement for a concise explanation. See MPEP §609.

These abstracts have been considered, and are assumed to reflect the most relevant teachings contained within each of the references, as it is presently understood by the individual

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designated in 37 CFR 1.56(c) most knowledgeable about the content of the information listed.

Accordingly, as none of the provided abstracts mentions compiling code or producing intermediate code that contains debug instrumentation, the Examiner assumes that none of these references discuss such relevant features.

### *Drawings*

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "RS".

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "RT".

A correction involving replacing "RT" in Fig. 2 with --RS-- would appropriately address the above objections. Additionally, the lower rectangle containing elements 4 and 5 in Fig. 1 should also be labeled "RS" to correspond with the description in the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) must be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

4. The abstract of the disclosure is objected to because the first two lines contain a sentence fragment. Correction is required. See MPEP § 608.01(b).

***Claim Objections***

5. Claims 10, 20, 23, and 26 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

6. Claims 1, 6, and 9 are objected to because of the following informalities:

“and device” in line of claim 1 should read --and a device--.

“a device” in line 2 of claim 6 should read --and a device--, and

“comprising device” in line 1 of claim 9 should read --comprising a device--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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8. Claims 6-9, 16-19, 22, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,987,249 to Grossman et al.

As per claim 6, *Grossman et al.* discloses a microprocessor for executing a compiled control program (see, for example, col. 18, lines 47-54), and a device for compiling a precompiled control program having debug instrumentation into an object code for the microprocessor (see, for example, col. 18, lines 37-46).

As per claim 7, *Grossman et al.* further discloses an observation module using the debug instrumentation (see, for example, col. 18, lines 37-54).

As per claim 8, *Grossman et al.* further discloses a data buffer for storing and providing observation information from the observation module (see, for example, col. 18, lines 47-54).

As per claim 9, *Grossman et al.* further discloses a device for receiving an execution order for the observation module (see, for example, col. 18, lines 47-54).

As per claim 22, *Grossman et al.* further discloses the compiled control program being a compiled cyclic control program (see, for example, col. 12, lines 39-44).

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As per claims 16-19 and 25, these are method versions of the claimed apparatus discussed above (claims 6-9 and 22, respectively), wherein all limitations have been addressed as set forth above.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-5, 11-15, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,987,249 to Grossman et al. in view of U.S. Patent No. 6,513,154 to Porterfield.

As per claim 1, *Grossman et al.* discloses a device for editing a control program (see, for example, col. 5, lines 8-16), and a device for compiling the control program (see, for example, col. 5, lines 2-8), wherein the compiling device is used to produce from the control program an intermediate code which contains debug instrumentation for the control program (see, for example, col. 5, lines 25-43).

*Grossman et al.* fails to expressly disclose the editing device being used to mark an area of the control program for debugging.

However, *Porterfield* teaches the use of an editor to mark an area of a control program for debugging, which results in the selective generation of corresponding instrumentation (see, for example col. 17, lines 9-15).

Therefore, it would have been obvious to one of ordinary skill in the computer art at the time the invention was made to modify the apparatus of *Grossman et al.* to include such marking via an editor as per the teachings of *Porterfield*. One would be motivated to do so to reduce the overhead incurred by instrumenting code.

As per claim 2, *Grossman et al.* further discloses the intermediate code being microprocessor-independent (see, for example, col. 6, lines 35-37). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 3, *Grossman et al.* further discloses a data storage device for association information for associating the marked area of the control program with an area of the intermediate code (see, for example, col. 12, lines 45-51 and col. 18, lines 22-36). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 4, *Grossman et al.* further discloses an order unit for dispatching an observation order for the marked area (see, for example, col. 18, lines 37-54). Therefore, for reasons stated above, such a claim also would have been obvious.



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As per claim 5, *Grossman et al.* further discloses a reception device for receiving observation information (see, for example, col. 18, lines 47-54). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 21, *Grossman et al.* further discloses the control program being a cyclic control program (see, for example, col. 12, lines 39-44). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claims 11-15 and 24, these are method versions of the claimed apparatus discussed above (claims 1-5 and 21, respectively), wherein all limitations have been addressed as set forth above.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric B. Kiss whose telephone number is (571) 272-3699. The Examiner can normally be reached on Tue. - Fri., 7:00 am - 4:30 pm. The Examiner can also be reached on alternate Mondays.

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If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EBK /EBK  
March 1, 2005



**TUAN DAM**  
**SUPERVISORY PATENT EXAMINER**